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CLAIMS

1. Inverse emulsion wherein the weight ratio between the aqueous phase and the organic phase is from 4:1 to 2:1 and containing from 20 to 70% by weight of an acrylic polymer obtained by inverse emulsion polymerisation of

- i. from 55 to 75% by weight of an anionic acrylic monomer containing a strongly acidic functional group;
- ii. from 0.1 to 5% by weight of a cationic acrylic monomer of the formula (I)

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$$R_1$$
 R_2
 R_3
 R_4
 R_3
 R_4

wherein

R₁ is hydrogen or methyl;

15 R_2 , R_3 , R_4 are, one independently of the others, hydrogen or C_1 - C_4 alkyl;

Y is NH or O;

A is a C1-C8 alkylene; X is chloride,

- iii. from 25 to 45% by weight of a C₃-C₅ anionic acrylic monomer containing a carboxylic group.
- 2. Inverse emulsion according to claim 1., wherein the acrylic polymer is obtained by inverse emulsion polymerisation of
- i. from 60 to 70% by weight of an anionic acrylic monomer containing a strongly acidic functional group;
- 25 il. from 2 to 4% by weight of a cationic acrylic monomer of the formula (I);
 - iii. from 30 to 40% by weight of a C₃-C₅ anionic acrylic monomer containing a carboxylic group.

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3. Inverse emulsion according to claim 1. or 2., wherein the anionic acrylic monomer containing a strongly acidic functional group is 2-acrylamido-2-methylpropanesulfonic acid.

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4. Inverse emulsion according to claim 3., wherein the cationic acrylic monomer of the formula (I) is selected from acryloyloxyethyl-trimethylammonium chloride and methacryloyloxyethyl-trimethylammonium chloride.

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- 5. Inverse emulsion according to claim 3. or 4., wherein the C_3 - C_5 anionic acrylic monomer containing a carboxylic group is selected from acrylic acid and methacrylic acid.
- 6. Inverse emulsion according to any of the preceding claims, wherein the acrylic polymer obtained by inverse emulsion polymerisation is cross-linked with from 0.01 to % by weight of a compound containing two or more ethylenic groups.
- 7. Inverse emulsion according to claim 6., wherein the acrylic polymer obtained by inverse emulsion polymerisation is cross-linked with methylene-bis-acrylamide.
 - 8. Procedure for the preparation of an inverse emulsion characterised by:
 - a. preparing a composition consisting of from 40 to 60% by weight of water, and for the remaining percentage by weight of a mixture of acrylic monomers consisting of:
 - i. from 55 to 75% by weight of an anionic acrylic monomer containing a strongly acidic functional group;
 - ii. from 0.1 to 5% by weight of a cationic acrylic monomer of the formula (I)

$$R_1$$
 Y
 A
 R_2
 R_3
 X

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L.

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wherein

R₁ is hydrogen or methyl;

 R_2 , R_3 , R_4 are, one independently of the others, hydrogen or C_1 - C_4 alkyl;

Y is NH.or O;

A is a C₁-C₈ alkylene; X is chloride,

- lii: from 25 to 45% by weight of a C₈-C₈ anionic acrylic monomer containing a carboxylic group;
- 10 b. adding to the composition prepared in a. an aqueous solution of an alkali to regulate the pH between 4 and 7, a cross-linking agent and an initiator of radical polymerisation, maintaining the temperature between 3 and 7°C;
 - c. preparing an organic phase containing one or more water-in-oil emulsifiers;
 - d. introducing the mixture obtained in b. into the organic phase prepared in c. and emulsifying the two phases by vigorous stirring;
 - e. initiating the polymerisation and completing it maintaining the temperature between 55 and 95°C under vigorous stirring;
- 20 f. cooling the reaction mixture to 35-45°C and adding an oil-in-water emulsifier.
 - 9. Procedure for the preparation of an inverse emulsion according to claim 8., wherein the mixture of acrylic monomers of the phase a. consists of:
- 25 i. from 60 to 70% by weight of an anionic acrylic monomer containing a strongly acidic functional group;
 - ii. from 2 to 4% by weight of a cationic acrylic monomer of the formula (i);
- ill. from 30 to 40% by weight of a C₃-C₅ anionic acrylic monomer containing a carboxylic group;
 - 10. Procedure for the preparation of an inverse emulsion according to claim 8. or 9., wherein the anionic acrylic monomer containing a

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strongly acidic functional group is 2-acrylamido-2-methylpropanesulfonic acid.

- 11. Procedure for the preparation of an inverse emulsion according to claim 11., wherein the cationic acrylic monomer of the formula (I) is selected from acryloyloxyethyl-trimethylammonium chloride and methacryloyloxyethyl-trimethylammonium chloride.
- 12. Procedure for the preparation of an inverse emulsion according to claim 11., wherein the C_3 - C_5 anionic acrylic monomer containing a carboxylic group is selected from acrylic acid and methacrylic acid.
- 13. Procedure for the preparation of an inverse emulsion according to any of the claims from 8. to 12., wherein the acrylic polymer obtained by inverse emulsion polymerisation is cross-linked with from 0.01 to 1% by weight of a compound containing two or more ethylenic groups.
- 15 14. Procedure for the preparation of an inverse emulsion according to claim 13., wherein the acrylic polymer obtained by inverse emulsion polymerisation is cross-linked with methylene-bis-acrylamide.
 - 15. Use of an inverse emulsion according to any of the claims from 1. to 7., for the preparation of cosmetic formulations.

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